WHAT IS CLAIMED IS:

1. A vacuum interrupter comprising:

dielectric encapsulation;

a vacuum chamber molded into the dielectric encapsulation, the vacuum chamber comprising:

a ceramic housing;

an end cap sealing the housing;

a floating shield within the housing; and

an exposed ring integral with the housing and coupled with the floating shield:

a semi-conductive material in contact with the exposed ring and disposed on a portion of the vacuum chamber ceramic housing; and

a voltage screen connected to the end cap, said voltage screen overlapping a portion of the semi-conductive material.

- 2. The vacuum interrupter of Claim 1 wherein the dielectric encapsulation substantially encapsulates the vacuum interrupter.
- 3. The vacuum interrupter of Claim 1 wherein the dielectric encapsulation is epoxy or the like.
- 4. The vacuum interrupter of Claim 1 wherein the voltage screen is comprised of perforated metal sheet.
- 5. The vacuum interrupter of Claim 1 wherein the voltage screen is comprised of metallic mesh material.
- 6. The vacuum interrupter of Claim 1 wherein the voltage screen is generally bowl-shaped.
 - 7. The vacuum interrupter of Claim 1 further comprising: a second end cap;

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a second voltage screen overlapping a second portion of the semi-conductive material and connected to the second end cap.

- 8. The vacuum interrupter of Claim 7 wherein the voltage screens substantially enclose the vacuum chamber.
- 9. The vacuum interrupter of Claim 7 wherein the voltage screens are mirror images of each other.
- 10. A system for mitigating electric field distortion inside a shielded encapsulated vacuum interrupter comprising:
 - a vacuum chamber;
- a semi-conductive material applied to an exterior portion of the vacuum chamber disposed within the shielded encapsulation;
 - a first voltage screen electrically connected to a first end of the vacuum chamber and disposed within the shielded encapsulation for enclosing a first portion of the semi-conductive material; and
 - a second voltage screen electrically connected to a second end of the vacuum chamber and disposed within the shielded encapsulation for enclosing a second portion of the semi-conductive material.
- 11. The system of Claim 10 wherein the first and second voltage screens are comprised of perforated metal sheet.
- 12. The system of Claim 10 wherein the first and second voltage screens are comprised of metallic mesh material.
- 13. The system of Claim 10 wherein the first and second voltage screens are generally bowl-shaped.
- 14. The system of Claim 10 wherein the first and second voltage screens are mirror images of each other.

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- 15. The system of Claim 10 wherein the first and second voltage screens substantially enclose the vacuum chamber exterior.
- 16. A method for mitigating electric field distortion inside a shielded encapsulated vacuum interrupter comprising:

providing a vacuum chamber comprising:

a first conductive endcap;

a second conductive endcap; and

an exposed ring disposed in the exterior of the vacuum chamber;

disposing a first semi-conductive material on the exterior of the vacuum chamber and contacting the exposed ring;

connecting a first voltage screen to the first conductive endcap;

connecting a second voltage screen to the second conductive endcap;

encapsulating the vacuum chamber and voltage screens in molded dielectric material; and

disposing a second semi-conductive material on the exterior of the molded dielectric material.

- 17. The method of claim 16 wherein the first and second voltage screens are comprised of perforated metal sheet, metallic mesh material, or the like.
- 18. The method of claim 16 wherein the first and second voltage screens are generally bowl-shaped.
- 19. The method of claim 16 wherein the first and second voltage screens substantially enclose the vacuum chamber and first semi-conductive material.
- 20. The method of claim 16 wherein the first and second voltage screens are mirror images of each other.
- 21. The method of claim 16 wherein the first semi-conductive material and the second semi-conductive material are the same.

22. The method of claim 16 wherein the molded dielectric material is epoxy or the like.